

What is claimed is:

1. An iris pattern photographing apparatus, comprising:

5 a body case;

a short lens digital camera for photographing an iris pattern of a person to be identified, the short lens digital camera being set up in the body case and including a lens module and an imaging device;

10 light emitting diode (LED) lamps for providing illumination for photographing, the LED lamps being set up around a lens of the digital camera;

a power supplying means for supplying power source to the digital camera and the LED lamps; and

15 a focal lens combined with a lens of the digital camera in the front for close contact photographing.

2. The iris pattern photographing apparatus as recited in claim 1, wherein the power source supplying means includes cable for supplying power source through a computer, the cable being connected to any one of input/output ports; and

20 the digital camera, which is connected to another input/output port of the computer through the cable, compares an iris image transmitted from the camera with a pre-registered iris pattern stored in the computer.

3. The iris pattern photographing apparatus as recited in claim 1, wherein the power source supplying means further includes:

30 a Universal Serial Bus (USB) controller including one or more USB modules, the USB controller being set up in the body case and the computer.

35 4. The iris pattern photographing apparatus as

recited in claim 1, further comprising:

a storing means for storing the pre-registered iris pattern, the storing means being set up inside the body case; and

5 a processor for comparing the iris image inputted from the digital camera with the iris pattern stored in the storing means, the processor being set up in the inside of the body case.

10 5. The iris pattern photographing apparatus as recited in claim 1, wherein the LED lamps have a smoothed light concentration part and the LED lamps are set up on both sides of the camera lens in the horizontal direction, the LED lamps on both sides being formed inclined and
15 facing each other to correct a defect in photographing caused by incident reflecting light into the inside of the digital camera.

20 6. The iris pattern photographing apparatus as recited in claim 1, wherein the LED lamps are formed within 2 cm from the center of the camera lens.

25 7. The iris pattern photographing apparatus as recited in claim 1, wherein the LED lamps on both sides of the camera lens are turned on at an interval of 200mm/s sequentially.

30 8. The iris pattern photographing apparatus as recited in claim 1, wherein the LED lamps include infrared ray LEDs and a cold mirror for selectively penetrating infrared rays in the front part of the digital camera lens.

35 9. The iris pattern photographing apparatus as recited in claim 8, wherein the cold mirror selectively penetrates only infrared rays having a wavelength band of

800nm to 900nm.

10. The iris pattern photographing apparatus as recited in claim 8, wherein the cold mirror has a cross
5 section area so that the person to be identified can see that the image of the entire iris is shown in the cold mirror, when the iris of the person is placed within the focal distance of the digital camera.

10 11. The iris pattern photographing apparatus as recited in claim 1, wherein the lens module of the digital camera has a focal distance of 16 mm to 25 mm.

15 12. The iris pattern photographing apparatus as recited in claim 1, wherein the focal lens has a focal distance of 16 mm to 25 mm.

20 13. The iris pattern photographing apparatus as recited in claim 1, wherein the focal lens is connected to the digital camera lens in the front, and the focal lens further includes a controller for controlling the focal distance from the digital camera.

25 14. The iris pattern photographing apparatus as recited in claim 13, wherein the controller is combined with the focal lens and the camera lens movably in the axial direction to thereby obtain a plurality of connection parts.

30 15. The iris pattern photographing apparatus as recited in claim 1, wherein the body case is formed in a shape of cylinder wrapping the camera lens in the front of the digital camera lens, and the body case includes an external illumination blocking device that can be drawn in
35 and out of the focal lens in the horizontal direction.

16. The iris pattern photographing apparatus as recited in claim 15, wherein the external illumination blocking device is formed in a length that the iris of the person to be identified is placed within the focal distance, when the person to be identified brings the face to a line end part of the external illumination blocking device.

17. The iris pattern photographing apparatus as recited in claim 15, wherein the external illumination blocking device can be drawn in and out manually or automatically and the external illumination blocking device can be drawn in and out of the camera lens in a length of 5cm to 10cm.

18. The iris pattern photographing apparatus as recited in claim 1, wherein the body case includes an auxiliary light source for maintaining the size of a pupil regularly by emitting light source around the digital camera lens.

19. The iris pattern photographing apparatus as recited in claim 1, wherein the body case further includes a display light source for the person to be identified to recognize whether the iris of the person to be identified is photographed.

20. The iris pattern photographing apparatus as recited in claim 1, wherein the imaging device is formed of a Charge-Coupled Device (CCD) chip of over a third inch or a CMOS chip, the imaging device capable of photographing at a low level of illumination.

21. The iris pattern photographing apparatus as recited in claim 1, wherein the body case includes a switch

for supplying or shutting off power source to or from the camera and/or LED lamps; and the external illumination blocking device includes a switch controller for turning off the switch based on the movement of the external illumination blocking device.

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